

START

Reel # 98
Davakin, A.I.

1. DAVANIN, A. I.

2. USSR (600)

"Calculation of Characteristic High Water Levels." Zapiski po gidro-
grafii, No. 1, 1948 (43-48).

9. Meteorologiya i Gidrologiya, No. 3, 1949.
Report U-2551, 30 Oct 52

DAVANKOV, A.

Magic grains. Nauka i tekhnika s mladezh' 13 no.12:18-20 D '61.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																																																																																																																																																																																					
PROCESSES AND PROPERTIES INDEX																																																																																																																																																																																																															
<p><i>Can</i></p> <p>Fatty acids [hydroxy acids] insoluble in petroleum ether. A. DAVANKOV, <i>Mosk. khim. Zhurnal</i> 1932, No. 1, 54-60.—In his study of the fatty acids formed by oxidation of hydrocarbons (naphtha), D. found that the sepn. of the HO acids can be effected with $\frac{1}{2}$-$\frac{1}{3}$ of the usual amt. of benzine, if the latter is satd. with 0.5-0.8% HCl gas. By hydrogenation the unsatd. HO acids become sol. in benzine. R. Hirtzberg</p>																																																																																																																																																																																																															
<p>ASAC S.A. METALLURGICAL LITERATURE CLASSIFICATION</p>																																																																																																																																																																																																															
<table border="1"> <thead> <tr> <th colspan="13">1ST ORDER</th> <th colspan="13">2ND ORDER</th> <th colspan="13">3RD ORDER</th> <th colspan="13">4TH ORDER</th> </tr> <tr> <th colspan="13">1ST ORDER</th> <th colspan="13">2ND ORDER</th> <th colspan="13">3RD ORDER</th> <th colspan="13">4TH ORDER</th> </tr> </thead> <tbody> <tr> <td colspan="13"></td> <td colspan="13"></td> <td colspan="13"></td> <td colspan="13"></td> </tr> </tbody> </table>																																																				1ST ORDER													2ND ORDER													3RD ORDER													4TH ORDER													1ST ORDER													2ND ORDER													3RD ORDER													4TH ORDER																																																																
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10

Separating acids. F. A. Moskin and A. N. Davankov.
 Russ. 80,400, May 31, 1934. Acids obtained in the
 oxidation of hydrocarbons are sepd. into sol. and insol.
 acids by treating their mist. in gasoline or a similar solvent,
 in the cold with SO_3 , NO_2 , Cl or HCl . The hydroxy acids
 are oxid.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																										CHEMICAL ELEMENTS																									
<p>Obtaining synthetic fatty acids by oxidation of paraffin. A. B. Davankov, Trans. 17th Mendeleev Congr. Theoret. Applied Chem. 1932 2, Pt. 1, 807-70(1936).—The re- sults of Fisher on oxidation under pressure were verified and confirmed. Besides the principal oxidation product, so-called distillate and water-sol. acids were obtained. The optimum oxidation temp. was 160°. A small ac- celeration of the process was obtained by the use of Mn, Cr, Co and Ni as catalysts. A higher temp. influence of different catalysts was observed at lower temps. and with less pure paraffin. After sapon. of the oxidized paraffin by NaOH, it was subjected to hot extr. with benzene. Different soaps were prepd. and investigated. Tests on oxidation of different paraffin intermediates were also undertaken; similar, but darker products of a lower grade were obtained. R. E. Stefanowsky</p>																										<p>22</p>																									
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																										<p>FROM SOURCE</p>																									
<p>147085 24</p>																										<p>147085 24</p>																									

130

B-II-7

Artificial waxes for registration of sound. AB Davankov IP Losev
 OJ Fedotova SV Schischkin and AP Grigoriev J Chem Ind Russ, 1935,
 12, 1268-1271. The wax of German origin contained PbO 2.67,
 Al₂O₃ 0.17, Na₂O 4.49 and org constituents 92.6% solid fatty
 acids suggesting that the org constituents originate from the
 hydrolysis of beeswax.

ASR-31A METALLURGICAL LITERATURE CLASSIFICATION

10000 00 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Plastic masses for phonograph records. A. R. Davan- kuv, A. P. Grigoriev, I. P. Losev, S. V. Shishkin and O. Ya. Fedotova. Russ. 46,012, Feb. 29, 1956. A mixt. of Pb and Na salts of fatty acids is heated with Pb salts of acids produced by oxidation of petroleum hydrocarbons.</p>																																																			
<p>Oroketite, cerium or paraffin also may be added to the masses.</p>																																																			
<p>ASS-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p>CO</p>										<p>22</p>									
										<p>Oxidation of paraffin with atmospheric oxygen at lower temperatures. A. R. Davnakov and O. Ya. Fedotova. <i>Org. Chem. Ind. (U. S. S. R.)</i> 1, 79-86(1958). Expts. were made in the oxidation of 300 g. paraffin, m. 53°, with atm. O at a rate of 810 l./hr. at 100°, 120°, 140° and 160° for different periods of time, with and without catalysts. Some expts. were repeated with 2 and 25 kg. of paraffin at a rate of 3000 l./hr. and 40-60 cu. m./hr. of atm. O, resp. The catalysts, prep'd. by the interaction of salts with the fatty acids of paraffin oxidation at 100°, were added in the amts. of 1.5% of Mn, 2.5% of Ca and 2.5% of Al. Preliminary heating of paraffin in air, CO, and H reduces the initial period of oxidation, but the entire process proceeds slowly. Ca is a more active catalyst than Al, and Mn then Ca. The catalytic action is effective only at lower temps. (120° and 140°) and not at all at 160°. Mn at 120° accelerates the oxidation 5 times in lab. and 10 times in semicom. expts., and at 140° leaves only 15% of unoxidizable residue. Chaz. Biaz.</p>									
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>																			

10

Comparison of synthetic fatty acids into hydroxy acids
 A. Davankov and O. Fedotova. *Org. Chem. Ind.* (U. S. S. R.) 4, 85-7 (1936).—Fatty acids are completely converted to hydroxy acids by continued oxidation with atm. O₂ at 140-160° for 18 hrs. In the presence of Mn salts of fatty acids the reaction is catalyzed at 120°. Only traces of lower (volatile) acids are formed in the reaction (Chas. Blau.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

28

PROCESS AND PROPERTY NOTES

Molds for casting phenolic plastic masses. G. S. Iva-
rov and A. B. Davankov. Russ. J. Eng., April 30, 1937.
The molds are prepd. from mixt. of high-melting salts of
fatty or petroleum acids with or without addn. of natural
or artificial fusible and sol. resins.

ASME-51.6 METALLURGICAL LITERATURE CLASSIFICATION

3C

PROCEDURE AND PROPERTIES MOST

B-F-2

Removal of tar from, and bleaching of, *Hamite*.
WAX. A. DAVANNOV and O. KONOVALOVA (Prom.
Org. Chim., 1937, 4, 30-34).—The crude wax is
dissolved in 1.5-2 vols. of C_2H_6 , 4-8 vols. of EtOH
are added, the mass is filtered, and the residue washed
with 10-18 vols. of 3:1 EtOH- C_2H_6 , when tar-free
wax is obtained in 80-85% yield. The wax is
bleached by heating at 105-115° for 7 hr. with
 $K_2Cr_2O_7$ in 1:1 48% H_2SO_4 -4% HNO_3 . R. T.

ASTM 154 METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

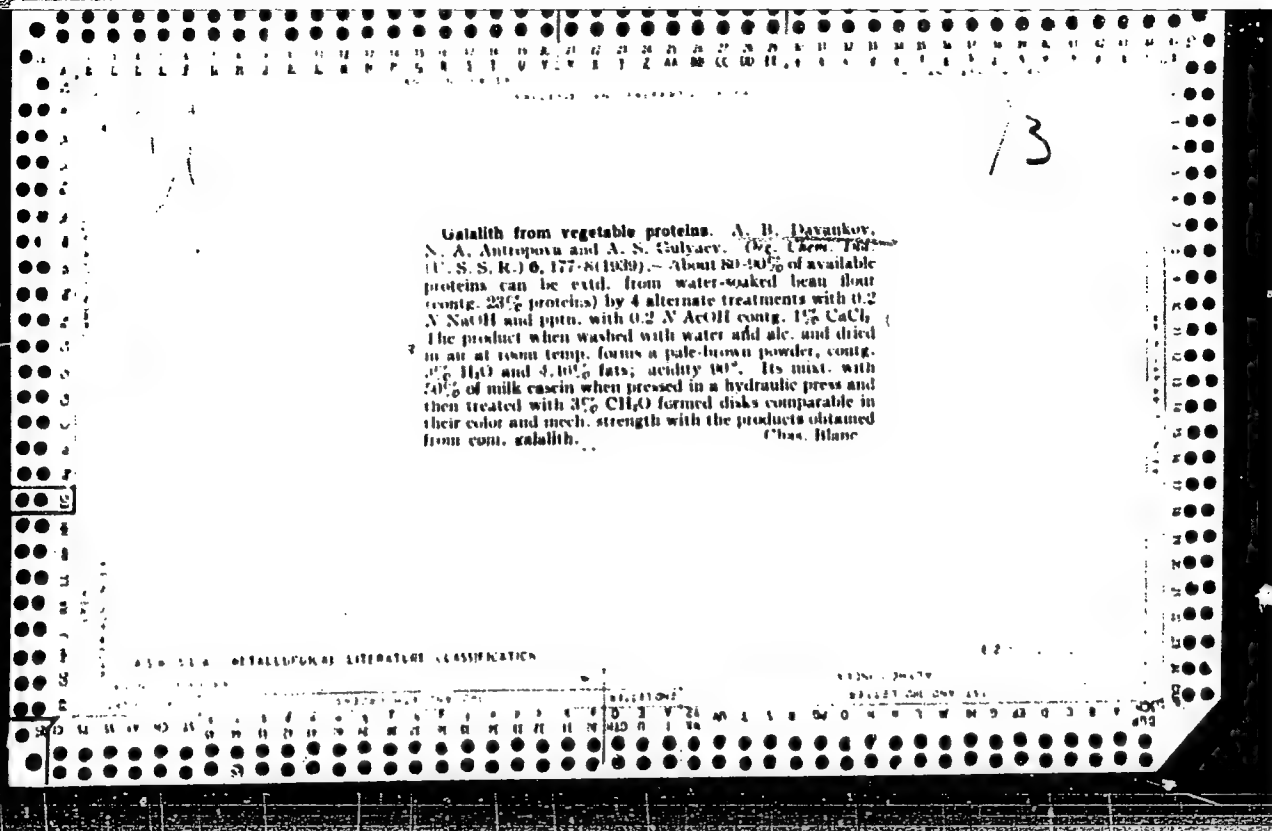
001127 OCT 09V 151

21

Co

Jeremination and bleaching of montan wax. H. A. Davankov and O. A. Kononova. *Org. Chem. Ind. (U.S.S.R.)* 4, 370 (1957); cf. C. A. 51, 8982^g. The improved procedure eliminates the use of inflammable solvents and precipitants and the operations involved in the recovery of these agents. The crude wax was dissolved in 4 vols. of dichloroethane (1), the solu. was cooled to room temp., or preferably to 0°, and the filtered wax was washed with 10-20 vols. of 1 and then heated to expel

1ST AND 2ND SERIES		3RD AND 4TH SERIES	
PERIODIC TABLE OF ELEMENTS			
ea		10	
<p>Camphor. A. B. Davankov, A. A. Berlin and O. A. Konovalova. <i>Russ: 56,123</i>, June 30, 1939. Camphor is formed by oxidizing camphene with $K_2Cr_2O_7 + H_2SO_4$ mixt. in the presence of 0.1-1.5% of HNO_3, nitrite or nitrate.</p>			
METALLURGICAL LITERATURE CLASSIFICATION		BETTER LITERATURE	
EDMUND LITERATURE	EDMUND LITERATURE	EDMUND LITERATURE	EDMUND LITERATURE



1ST AND 2ND COPIES		PROCEDURES AND PROPERTIES INDEX		3RD AND 4TH COPIES	
B-11-5					
<p>Acetylation of wood-cellulose and preparation of cellulose acetate films from the product. A. R.</p> <p>Dayanov, and A. A. Buzan (Petro. Org. Chem., 1959, 6, 244-249).—Sulphite-cellulose is soaked for 20 hr. in a 3:3 AcOH-Ac₂O mixture, 0.08 pt. of H₂SO₄ is added, and the system held at 60° for 3 hr.; the product is readily sol. in 1:3 NaOH-CHCl₃ and contains 60% of bound AcOH. The prep. and properties of plastics based on this product are described. R. T.</p>					
<p>ASB-114 METALLURGICAL LITERATURE CLASSIFICATION</p>					
ROOM SYMBOL		ROOM NO.		ROOM NO.	
10000 01		10000 01		10000 01	
10000 01		10000 01		10000 01	

1ST AND 2ND CROSS										3RD AND 4TH CROSS									
PROCESSING AND PROPERTY INDEX																			
<div style="text-align: right; padding-right: 5px;">BC</div>		B-I-2																	
		<p>Extraction of bitumens (moisten wax) from Alexandria lignites. A. B. DAYANLOV AND O. A. KONOVALOVA (FROM. Org. Chem., 1939, 6, 402-404). —Lignite is extracted (Soxhlet, 10 hr.) with 1:1 EtOH-C₂H₅Cl, or -C₂H₅Cl, mixtures; a purer product is obtained, in higher yield, than with other solvents studied (C₂H₆, C₂H₄/Cl₂, light petroleum, Et₂O, C₂H₅N). The humidity of the lignite does not affect the results. Somewhat higher yields are obtained by extraction in an autoclave at 160° (3 hr.). R. T.</p>																	
<div style="text-align: right; padding-right: 5px;">OPEN</div>		ASB-51A METALLURGICAL LITERATURE CLASSIFICATION																	
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<div style="text-align: right; padding-right: 5px;">MATERIALS INDEX</div>		<div style="display: flex; justify-content: space-between;"> 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 </div>																	
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(Handwritten "CA" in top left corner)

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Activation of the oxidation of camphene. A. H. Ivanovskoy and A. A. Berlin. *J. Applied Chem.* (U. S. S. R.) 12, 1300-1400 (in French, 1406) (1939).—The oxidation of camphene with the $K_2Cr_2O_7-H_2SO_4-H_2O$ mixt. is not a very efficient operation. The activation of the process with H_2O_2 , perchromic acid, HNO_3 and $NaNO_2$ was investigated. HNO_3 and $NaNO_2$ were the most effective catalysts. The oxidation of camphene was carried out with the mixt. of $K_2Cr_2O_7$, 8, H_2SO_4 , 22.5 and water 69.5% at an initial temp. of 70° and a final temp. of 90° . The amts. of HNO_3 (100%) or $NaNO_2$ used should not be more than 6 g. per 100 cc. of the oxidation mixt. and 14.0% by wt. of $K_2Cr_2O_7$, resp. The oxidation was carried out in 4-6 cycles. Both of the above catalysts decreased the time of oxidation and increased the yield of camphor. Thus the oxidation of camphene in the presence of $NaNO_2$ yielded 70% of camphor, m. 102° , in 10 hrs. The camphor so obtained contained 3.0% camphene. The oxidation of camphene under conditions approximating those which are used in the industry was also carried out in the presence and absence of $NaNO_2$. The yield of camphor was 88.1 and 88.6%, resp., disclosing that an oxidation with the somewhat dild. mixt. took place although it required more time (22.5 and 34 hrs., resp.), but the amt. of $K_2Cr_2O_7$ used was smaller than in the oxidation with the concd. mixt. The evolution of CO_2 during the reaction was observed and is explained by the direct oxidation of camphene to CO_2 .

A. A. Podgorny

ASB-SLA DETALLURGICAL LITERATURE CLASSIFICATION

EDITION 17VIBLW
16FORD *
EDUCOD MIX ONV ODE

EDITIONE
EDITION GME QNW SLI

13

CA

PROCESSES AND PROPERTIES

Plastic masses. A. H. Davankov and A. A. Berlin.
Russ. 50,745, March 31, 1940. As a base for plastic
masses is used acetylcellulose contg. 40-80% acetic acid.

ASA-SEA METALLURGICAL LITERATURE CLASSIFICATION

13

24

Synthetic resins and plastic masses. A. B. Davankov and O. A. Kouvalova. Russ. 57,963, Sept. 30, 1940. Phenol is catalytically condensed with aldehydes in the presence of montan wax refined by the method of C. I. 34, 52709.

ASAC SLA DETAILING LITERATURE CLASSIFICATION

Emulsion polymerization of vinyl derivatives in the presence of AEM persulfate. B. N. Rutovskii and A. B. Danilov. *Khimicheskaya Prom.* 1966, No. 2/3, 30.---
Emulsion emulsions were obtained with as little as 0.6-1.8% of the persulfate based on the wt. of the monomer. The polymerization proceeded rapidly. No other emulsifiers were needed and the persulfate residues were easy to remove from the polymer. The conditions under which polymerization was carried out (diln., temp. and time) and the characteristics of the product (viscosity, softening point, soly. in benzene, ethylacetate, acetone, alc. and in water) are tabulated. M. Hosh.

TIT AND TAG SYSTEM

PROCESSES AND PROPERTIES INDEX

CA

9

Alkali-resistant abrasive materials. A. B. Davankov
and D. Ya. Propis. Khim. Prom. 1947, No. 2, 21-3.
An alkali-resistant bonding material for abrasives is f
perpet from a mixt. of aniline- CH_3O resin (20%) and
phenol- CH_3O resin. The aniline- CH_3O resin is obtained
by condensing aniline 1 and CH_3O 1.4 mols. in the pres-
ence of concd. HCl 5% of the wt. of aniline. The con-
densation is carried out at the b.p. of aniline.. M. Hoseh

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

SOURCE SYMBOLS

BRILLSTONE

CATALOGUE OF THE SOURCE SYMBOLS

O M W AV SD AS I W P DP R N T X Y Z ALG A I BA AN L S O G H U V W X C S V RA

DAVANKOV, A.B., kandidat tekhnicheskikh nauk; PRUPIS, D.Ya., mladshiy
nauchnyy sotrudnik

Lye-resistant abrasive materials. Khim.prom.no.2:53-54 F'47.
(Abrasive) (MIRA 8:12)

(A)

57

Coloring polymerized resins in the finely dispersed state and the selective adsorption of dyes by synthetic resins. A. B. Davankov, V. P. Perepelkin, and E. A. Sobolova (D. I. Mendeleev Chem.-Tech. Inst., Moscow). *Zhur. Priklad. Khim.* 24, 65-10 (1961).—Polymers were made by emulsion polymerization of methyl methacrylate or styrene or copolymerization of methyl methacrylate and vinyl acetate, with $(NH_4)_2S_2O_8$ as a catalyst. The polymers were colored in the form of aq. dispersions by addn. of basic dyes (crystal violet, fuchsin, or methylene blue) to the dispersions. The coloring process may result from chem. interaction between the basic dye and the acidic polymer. This conclusion was based on the following observations: (1) The use of persulfate catalyst produces polymers of acidic character (1-4 acid groups per polymer mol.). (2) Polymer is pptd. on coloration. (3) The colored complex has a high stability to the action of light and chem. reaction. (4) The colored polymer dissolves in org. solvents to form colored solns., even in the case of solvents in which the basic dye by itself is practically insol. H. K. Livingston

DUBININ, M.M., akademik, otvetstvennyy redaktor; GAPON, Ye.N.; GAPON, T.B.;
ZHYPAKHINA, Ye.S.; RACHINSKIY, V.V.; BELEN'KAYA, I.M.; SHUVAEVA, G.M.;
ROGINSKIY, S.Z.; YANOVSKIY, N.I.; FUES, N.A.; KISELEV, A.V.; HEYMARK, I.Ye.;
SLINYAKOVA, I.B.; KHATSET, F.I.; LOSEV, I.P.; TROSTYANSKAYA, Ye.B.;
TEVLINA, A.S.; DAVANKOV, A.B.; SALDADEK, K.M.; BRUMBERG, Ye.M.; ZHIDKOVA,
Z.V.; VEDENEVA, N.Ye.; NAPOL'SKIY, S.A.; MIKHAYLOVA, Ye.A.; KAZANSKIY, B.A.;
RYABCHIKOV, D.I.; SHENYAKIN, F.M.; KRETOVICH, V.L.; BUNDEL', A.A.; SAVINOV,
B.G.; VENDT, V.P.; EPSHTEYN, Ye.A.

[Research in the field of chromatography transactions of the All-Union
Conference on Chromatography, November 21-24, 1950] Issledovaniya v oblasti
khromatografii; trudy Vsesoiuznogo soveshchaniya po khromatografii, 21-24
noyabrya 1950 g. Moskva, Izd-vo Akademii nauk SSSR, 1952. 225 p.

(MLRA 6:5)

1. Akademiya nauk SSSR. Otdelenie khimicheskikh nauk.
(Chromatographic analysis)

DAVANKOV, A.B.; SOKOLOVA, Ye.A.

Casting properties of emulsion polymethyl methacrylate. Zhur. Priklad. Khim.
26, 217-20 '53. (MLRA 6:3)
(CA 47 no.21:11798 '53)

DAVANKOV A. B.

U.S.S.R.

Selective adsorption of dyes by synthetic resins. II.
A. B. Davankov, *J. Appl. Chem. U.S.S.R.* 26: 123-7
(1953) (Engl. translation).—See *C.A.* 49, 601e. H. L. U.

DAVANKOV, A. B.

Davankov, A. B., "Ob isbiratel'noi adsorbtsii krasitelei iskusstvennyimi smolami", Selective adsorption of dyes by synthetic resins, Zhur. Prikl. Khimii, Vol 26, No. 12, pp 1290-98, Dec. 1953

Study of dyeing hydrophobic resins by aqueous solutions of organic dyes. It was found that the polymers of vinyl chloride, in presence of peracidic substances exhibit pronounced adsorptive properties with respect to basic dyes. Acid and direct dyes do not extract polyvinyl chloride from its aqueous solutions. It is possible to separate dyes using polyvinyl chloride. Chemical similarity between basic dyes and polyvinyl chloride indicate the presence of functional groups.

72-117-54

DAVANKOV, A. B.

(3)
New methods of dephenolization of industrial waste waters.
A. B. Davankov and N. B. Orneva (D. I. Mendeleev
Chem. Technol. Inst., Moscow). *Gigiena i Sanit.* 1954,
No. 2, 9-15. Anion-exchange resins are satisfactory for
the removal of phenols from samples of industrial waste
liquor on the lab. scale. The most satisfactory resins of
local manuf. are MPVKh, N-O, TN, PE-9, and EDE-10.
For regeneration of the resins, the solns. of NaOH or NH₄OH
are used. The concn. of phenols in the regeneration liquor
is below 12%.
G. M. Kosolapoff

DAVANKOV, A. D.

"Concerning the Extraction of Phenol From Aqueous Solutions by Means of Anionite Resins," an article included in the book "The Theory and Practice of the Application of Ion-Exchange Agents," edited by K. V. Chmukov and published by the AS USSR, 1955, 164 pp.

DAVANKOV, A.B.

Selective adsorption of dyes by synthetic resins. Soob.o nauch.rab.
chl.VKHO no.1:32-38 '55. (MIRA 10:10)
(Dyes) (Adsorption) (Resins, Synthetic)

1. H. H. H. H. H. H.

A quantitative method for determining precious metals in
wastewater and effluent waters. A. B. Davankov and V. M.
Laufer, *1. Mendeleev Chem. Technol. Inst. (Moscow)*
Zashch. Lab. 22, 294-4 (1956). — The Au detn. in
wast. waters and effluents is based on its coagulation and the
Au pptn. on synthetic resins. The resin used is capable of
forming ions of the sign opposite that of the cation. The
resin is converted before use into the sulfate, chloride, or
carbonate form. The method is applicable to very low Au
content of 1-2 mg./l. W. M. S. anberg

2 M. A. YOUTZ
scopies

PM

DAVANKOV, A.B.

USSR/ Analytical Chemistry - Analysis of Inorganic Substances

G-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12045

Author : Davankov A.B., Laufer V.M.

Title : Determination of Precious Metals by Means of Ionites

Orig Pub : Zavod. laboratoriya, 1956, 22, No 7, 788-789

Abstract : Small amounts of Au and Ag (fractions of mg per liter) are separated from cyanide solutions with an anionite. Solution of pH 3.5, containing $KAg(CN)_2$ or $HAuCl_4$, is passed through an adsorption column filled with anion-exchange resin NO in the chloride form. In the case of solutions containing 0.5-20 mg/liter Au, fed into an adsorption column 7-8 mm in diameter, with a resin layer 250-300 mm in depth, rate of filtration must not exceed 15 ml/minute. With solutions containing large excess of mineral salts or organic admixtures the rate of filtration must be decreased. The amount of solution that is filtered through the adsorbent is determined by the initial

Card 1/2

DAVANKOV, A. B.

57
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8

Extraction of metallic gold from industrial waste with synthetic resins. A. B. Davankov and V. M. Laufer. *Zhur. Priklad. Khim.* 29: 352-353 (1959).—It was shown that highly porous specimens of Soviet-made anion exchange resins were effective in extn. of Au from waste liquors. After combustion of the resin, from 84% to 100% Au was recovered. The basic liquors were made slightly acid with HCl and were stirred with the powd. resins 3-5 hrs., after which the residue was sepd., washed, and ignited.

G. M. Kosolapoff

DAVANKOV, A.B.; LAUFER, V.M.

Ion exchange and the distribtuion of gold ions in resinous absorbents.
TSvet.met.29 no.11:1-6 N '56.. (MIRA 10:1)
(Ion exchange) (Gold)

DAVANKOV, A. B.

Ion-exchange recovery of gold from solutions by means of synthetic resins. A. B. Davankov and V. M. Laufer (Zh. prikl. Khim., 1959, 29, 1028-1035; ~~1035~~—N-O) anion-exchange resins, in hydroxyl (I), carbonate (II) and sulphate (III) forms, with grain size 0.5—0.8 mm., were used for the recovery of gold from pure aq. solutions of $\text{KAu}(\text{CN})_2$ and from industrial wastes (chiefly from plating baths). Amount of gold in solutions was 24 mg./l., pH 7 with filtration rate 10 ml./min. and resin layer depth 180 mm. 98.9% recovery of gold was achieved by II: I and III yielded 91.8%. When resin depth was 180 mm., at pH 8, gold recovery was 97.22% (II) and 74.21% (III). By decrease of pH from 7 to 8.5, moisture content of resins in pure solutions of $\text{KAu}(\text{CN})_2$ was more than doubled in some cases. In all cases the percentage recovery from industrial wastes was proportionately less.

A. L. B.

Met
chem

DAVANKOV, A. B.

CHMUTOV, K.V., otvetstvennyy redaktor; SHERYAKIN, F.M., professor, otvetstvennyy redaktor; DAVANKOV, A.B., redaktor; RACHINSKIY V.V., redaktor; SALDAZHE, K.M., redaktor; SEMOV, P.L., professor, redaktor; TROSTYANSKAYA, Ye.V., professor, redaktor; YEGOROV, N.G., redaktor izdatel'stva; ASTAF'YEVA, G.A., tekhnicheskiy redaktor.

[Studies in ion-exchange chromatography; work of the conference on the application of ion-exchange chromatography in medical and food industry] Issledovaniya v oblasti ionoobmennoi khromatografii; trudy soveshchaniya po primeneniyu ionoobmennoi khromatografii v meditsinskoj i pishchevoj promyshlennosti. Moskva, 1957. 193 p. (MIRA 10:6)

1. Akademiya nauk SSSR. Komissiya po khromatografii. 2. Chlen-korrespondent Akademii nauk SSSR (for Chmutov)
(Ion exchange) (Chromatographic analysis)

DAVANKOV, A. B.

7 3
Anion-exchange substance. A. B. Davankov and T. V. Kheis. U.S.S.R. 105,757, May 23, 1957. An anion-exchange substance is obtained by treating sulfonated cation-exchange resins, such as sulfonated coal, with a 3-6.

fold excess of NH_4OH or an amine at about 200° and 3 atm. for several hrs. M. Hosh

PM 0006

Dayankov, A.B.

✓ Removal of chloride ions from amino acids. A. B.
Dayankov and V. M. Laufer. U.S.S.R. 107,254, Sept.
20, 1967. Chloride ions are completely removed from amino
acids by treating the latter with amphoteric ion-exchanging
synthetic resins charged with heavy metals, e.g. Ag or Pb,
capable of forming insol. salts with chloride ions.
M. Hosh

my

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1-4E4j

SOV/137-58-8-16648

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 58 (USSR)

AUTHORS: Davankov, A.B., Laufer, V.M.

TITLE: Recovery of Precious Metals by Ion Exchange and Secondary Processes Occurring in Ion Exchangers (Iz vlecheniye dragotsennykh metallov s pomoshch'yu ionnogo obmena i vtorichnykh protsessov, osushchestvlyayemykh na ionitakh)

PERIODICAL: V sb.: Materialy Soveshchaniya po primeneniyu ionnogo obmena v tsvetn. metallurgii. Moscow, 1957, pp 73-79

ABSTRACT: A device for saving Au from industrial caustic solutions by adsorption on anionite resins of low swelling capacity, porous structure, and fundamental properties favorable both to ion exchange and to adsorption, has been developed and tested successfully under industrial conditions. Dissociation of such anionites in aqueous solutions with formation of cations of low mobility facilitates coagulation of Au and ensures speed and completeness in precipitation thereof on the adsorbent. The resin is separated from the solution by means of a Nutsche filter. Joint ion exchange and reduction by hydroquinone was applied to Ag and Au solutions. This significantly increased

Card 1/2

SOV/137-58-8-16648

Recovery of Precious Metals by Ion Exchange (cont.)

the absorptive capacity of "H-O" anionite and made it possible to extract up to 112.8% Ag and 114.6% Au relative to the weight of dry resin (and this did not even exhaust its absorptive capacity). It proved possible to extract up to 72% of the Au in sea water when 50 g resin was used per 500 liter of solution, but the resin was contaminated by Fe salts. The "H-O" resin is suited to recovery of Au from highly-contaminated, exhausted caustic electrolytes, but regeneration of the resin by the usual means is not possible. "H-O" resin permitted the extraction of 80-90% Au from a solution of Au resinate in turpentine containing 3.5 g Au per liter.

Ye.Z.

1. Gold--Recovery
2. Silver--Recovery
3. Ion exchange resins--Performance

Card 2/2

✓ Secondary processes of amphoteric ionites and the possibility of their practical utilization. A. B. Davankov, V. M. Lauter, and L. A. Shiba. *Zhur. Prirod. Khim.* 30, 839-44 (1957).—The extent of cation Ag and anion Au from aqueous solutions by a synthetic amphoteric resin "BST" was investigated. The resin contained 10.25 wt. % S, of which not more than 1% was in the active group SO_3H . The resin, white, d. 1.134, increased in vol. by 12% on swelling in H_2O . The acid form was washed with 5% NaOH , and AgNO_3 was filtered through it at 20 ml. per cycle for 5 cycles and 0.1N AgNO_3 for 3 cycles. At the end of each cycle filtration of AgNO_3 stopped and 25 ml. of a soln. of hydroquinone contg. 0.5 ml. 25% NH_4OH was filtered through. The adsorptive capacity of the resin decreased with each cycle, but it was not exhausted at the end of the 22nd cycle, having adsorbed 107% of its own wt. of Ag, visible as crystalline metallic. After 4 cycles of 0.01N AgNO_3 with "resting" periods from 3 hrs. to 3 days between cycles, the resin was washed with 5% HCl , converting it to the chloride form ($\text{HClSRN(H)}_2\text{Cl}$), and a soln. of $[\text{KAu(CN)}_2]$ contg. 20 mg. Au/l., pH 3.5, was filtered through the column. After burning the resin, 0.380 g. Au and 0.5924 g. Ag were recovered (dry wt. of resin 5 g.). J. Benedek.

for RM amb

AUTHORS: Davankov, A. B., Zambrowskaya, Ye. V., SOV/156-58-2-42/48
Borzenkova, S. Ya.

TITLE: On Granular Polycondensation and on Polymerization in the
Production of Ionites (O granul'noy polikondensatsii i
polimerizatsii v proizvodstve ionitov)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya
tekhnologiya 1958, Nr 2, pp. 369-372 (USSR)

ABSTRACT: The shape and the physical properties of the particles of the
synthetic resins used as ionites are of great importance for
practical application. Most of the ion exchanging resins have
hitherto been produced as grains of irregular shape (with
sharp edges). They are obtained by crushing the solidified
polymer. The 10 - 15% of dustlike waste forming in this
connection cannot (with one minor exception, Ref 1) be
properly used in industry. The costs for their application
as fertilizers in agriculture are too high (Ref 2). The
Polycondensation mentioned in the title is based on the
solidification of the polymers in liquid state. Thus, crushing

Card 1/3

On Granular Polycondensation and on Polymerization
in the Production of Ionites

SOV/156-58-2-42/48

is not necessary and the waste decreases to 0,3 - 0,5%. According to temperature, intensity of mixing and the properties of the surface-active substances in the solution, ionites can be obtained as spheres of different size. This shape of ionites has a number of advantages as compared to that of the irregular grains. The problem of the methods of production of such spherical ionites has not been sufficiently elucidated in publications (Ref.3). The authors made it their object to produce several already known and several new anionites of spherical shape. Final solidification was obtained by an additional heating of the polymer in liquid state in different media: oils, benzene, glycerine, saturated NaCl- and CaCl₂- solutions and others. The best results were obtained by using transformer oil as solidifying medium. On contacting the oil the polymer drops are covered by an oil film which prevents the coagulation of individual drops and thus the formation of greater aggregations. At a temperature of 60 - 65° and with intensive mechanical stirring

Card 2/3

On Granular Polycondensation and on Polymerization
in the Production of Ionites

SOV/156-58-2-42/48

(propeller mixer 200 rev/min) solidification of the drops was completed after 1 - 1.5 hours; in conclusion further conditions for an optimum quality of the spherical ionites are given. There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Kafedra tekhnologii plastmass Moskovskogo khimiko-
tekhnologicheskogo instituta im. D. I. Mendeleyeva (Chair
for Technology of Plastics of the Moscow Institute of Chemical
Technology imeni D. I. Mendeleyev)

SUBMITTED: October 5, 1957

Card 3/3

DAYANKOV, A.B.; LAUFER, V.M.; RAZGIL'DEYEV, N.Ye.

Extraction of gold from discharge electrolytic solutions by
ion exchange. Zhur.prikl. khim. 31 no.3:494-497 Mr '58.

(MIRA 11:4)

(Gold) (Extraction (Chemistry)) (Ion exchange)

SOV/136-58-5-15/22

AUTHORS: Davankov, A.B., Laufer, V.M., Tarusin, V.P.,
Neginskiy, O.Ye and Ruzhnikov, M.S.

TITLE: A Pilot-plant Scale Experiment on the Extraction of
Gold from Ion-exchange Resins After Adsorption
(Polupromyshlennyy opyt vydeleniya zolota iz ioncobmennyykh
smol posle adsorbtsii)

PERIODICAL: Tsvetnyye Metally, 1958,³¹ Nr 5, pp 81 - 82 (USSR)

ABSTRACT: The authors discuss some examples of gold recovery from
ion-exchange resins being effected after ashing the resin.
They describe work at an enterprise controlled by the
Ministerstvo finansov SSSR (Finance Ministry of the USSR)
in which gold was extracted from spent electrolytes with
the aid of type N-0 resin in two 1 665-mm high tubes
(73 mm dia.) in series. 97.6 litres of spent cyanide
electrolyte was passed at 10 litres/hour and an ash
containing 73% gold was finally obtained. The gold was
extracted from the ash by high-frequency melting under
borax in a graphite crucible in separate portions. The
experimental data are tabulated, showing 99.81% recovery of

Card 1/2

SOV/136-58-5-15/22

A Pilot-plant Scale Experiment on the Extraction of Gold from Ion-exchange Resins After Adsorption

the gold present in the original solution. The authors found that with careful ashing in ceramic vessels and fusion under borax, complete extraction of the gold from the ashed residue was obtained.

There are 1 table and 4 Soviet references

1. Ion exchange resins--Adsorptive properties
2. Gold--Processing
3. Gold--Production
4. High frequency heating--Applications

Card 2/2

DAVANKOV, A.B.

[Grigori Semenovich Petrov] Grigori Semenovich Petrov.
Moskva, Izd-vo Mosk. khimiko-tekhnologicheskogo in-ta,
1959. 31 p. (MIRA 16:11)
(Petrov, Grigori Semenovich, 1886-1957)

5(2), 18(6)

SOV, 156-59-1-52/54

AUTHORS: Davankov, A. B., Laufer, V. M.

TITLE: On New Methods of the Concentration of Gold on Ion Ex-changers by the Aid of Ion Exchange and of Redox Processes (O novykh metodakh kontsentrirvaniya zolota na ionitakh s pomoshchyu ionnogo obmena i okislitel'no-vosstanovitel'nykh protsessov)

PERIODICAL: Nauchnye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 202 - 205 (USSR)

ABSTRACT: The adsorption of the gold salts HAuCl_4 and $\text{K}_2\text{Au}(\text{CN})_2$ on synthetic resin anion exchangers "N-O" and "TN", and the elution of these salts by thiourea or hydrochloric acid in acetone and ethyl alcohol are investigated. The results are listed in tables. The complex AuCl_4^- salts could be reduced by hydroquinone. This reduction re-liberates the ionogenic groups of the exchanger and re-establishes its exchange capacity. With the $\text{Au}(\text{CN})_2^-$ ions the reduction could not be effected. These salts could, however, be removed from the resin by weak basic solutions or by mineral acids.

Card 1/2

On New Methods of the Concentration of Gold on Ion
Exchangers by the Aid of Ion Exchange and of Redox Processes

SOV/156-59-1-52/54

In general, quantitative gold solutions could not be effected
(Table). The total gold content could be preserved only by
the burning of the resin. There are 2 tables and 3 Soviet
references.

ASSOCIATION:

Kafedra tekhnologii plastmass Moskovskogo khimiko-tekhnolo-
gicheskogo instituta im. D. I. Mendeleeva (Chair of the
Technology of Plastics of the Moscow Institute of Chemical
Technology imeni D. I. Mendeleev)

SUBMITTED:

May 27, 1958

Card 2, 2

5(3),15(8)
AUTHORS:

Davankov, A. B., Babchinitser, T. M., SOV/156-59.2-57/48
Borzenkova, S. Ya.

TITLE:

Innergranular Chemical Transformations in the Copolymers
of Styrene With Divinylbenzene (O vnutrigranul'nykh khimi-
cheskikh prevrashcheniyakh v sopclimerakh stirola s divinil-
benzolom)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya
tekhnologiya, 1959, Nr 2, pp 363-367 (USSR)

ABSTRACT:

The authors investigated two forms of the chemical reaction
in the polymers mentioned in the title, which were used in
granulated form (diameter 0.25-2.0 mm): 1) Nitriding with
following reduction of the nitrogen group, and 2) Chloro-
methylating with following substitution of the chlorine atoms
through aminogroups. Copolymers with a content of 2, 3, 4,
and 10 % divinylbenzene were nitrided. After nitriding, the
nitrogen content averaged 12-14 % (Table 1). A high content
of divinylbenzene aggravated the nitriding and resulted in
a lower nitrogen content. The nitrided granulate was of yellow
color and its mechanical hardness decreased. The reduction
was carried out - after an unsatisfactory trial with zink -

Card 1/3

Innergranular Chemical Transformations in the
Copolymers of Styrene With Divinylbenzene

SOV/156-59-2-37/48

with tin (II) chloride in hydrochloric acid. With increasing interlacing of the copolymers, the force of the reaction decreases (Table 2). The static anion-interchangeability of the best resin test-pieces amounted to 6.25 mg-equiv/g for 0.5-normal hydrochloric acid and 7.75 mg-equiv/g for 0.5-normal sulphuric acid. During the second series of tests, copolymers with a divinylbenzene content of 2, 4, 6, 8, and 10 % were treated with chloromethylether (Table 3) and their chlorine content was determined. The copolymers with a Cl-content of 18-19 % were substituted with trimethylamine. The rest-content of chlorine amounted to 7-10 %, the nitrogen content to 2-2.5 %. When treated with pyridine instead of trimethylamine, the copolymers contained 9 % chlorine and also 2-2.5 % N. The static anion-interchangeability was 2-3 mg-equiv/g for 0.1-normal hydrochloric acid. There are 3 tables and 4 references, 2 of which are Soviet.

Card 2/3

Innergranular Chemical Transformations in the
Copolymers of Styrene With Divinylbenzene

SOV/156-59-2-37/48

PRESENTED BY: Kafedra tekhnologii plastmass Moskovskogo khimiko-tekhnologicheskogo instituta im. D. I. Mendeleyeva (Chair for the Technology of Plastics Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: December 11, 1958

Card 3/3

S/081/60/000/019/007/012
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 19, p. 522, # 79369

AUTHORS: Davankov, A. B., Zambrovskaya, Ye. V.

TITLE: The Use of Acid Esters of Dithiocarbonic Acid as a New Type of Ion-Exchanging Material ✓

PERIODICAL: Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva, 1959, No. 29, pp. 72-82

TEXT: The possibility was established of converting water-soluble salts of various acid esters of dithiocarbonic acid (ethyl and butylxanthogenate of potassium, cellulose xanthogenates, polyglycerins, polyvinyl alcohol and its copolymers with malein anhydride) into a non-soluble form by means of adsorption on the "H-O" resin. The authors studied the exchange capacity of ionites obtained under dynamical conditions from AgNO₃ solutions. Ways were found of concentrating on the aforementioned adsorbents great amounts of silver with the use of reducing agents (19 - 31 mg-equ/g). A synthesis was developed of a condensation MMC (MMS) resin containing sulfohydryl groups (5.76% S). Investigations ✓

Card 1/2

S/081/60/000/019/007/012
A006/A001

The Use of Acid Esters of Dithiocarbonic Acid as a New Type of Ion-Exchanging Material

were made of the sorption capacity of the resin (granulated and non-granulated) with respect to Ag^+ cations at 20 and 60°C and of the possibility of extracting silver out of the column. ✓

Ye. Zambrovskaya

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/081/61/000/001/014/017
A003/A105

Translation from: Referativnyy zhurnal, Khimiya, 1961, No. 1, p. 515, # 1P39

AUTHORS: Davankov, A.B., Davankova, D.A.

TITLE: On the Problem of Chemical Transformations of Polyvinyl Alcohol

PERIODICAL: "Tr. Mosk. khim.-tekhnol. in-ta im. D.I. Mendeleyeva", 1959, No. 29, pp. 93 - 98

TEXT: The authors investigated some chemical transformations of polyvinyl alcohol. Hereat benzyl ethers of polyvinyl alcohol were obtained with a high content of benzyl groups (66.4%), and their properties were studied. Chloromethylated derivatives of the benzyl ethers of polyvinyl alcohols were obtained. It is established that the disintegration of the polymers in consequence of nitrating of the benzyl ethers of polyvinyl alcohol and subsequent reduction of the nitro groups into amino groups is observed, which leads to compounds that are soluble in alkali hydroxides; highmolecular quaternary ammonium bases with exchange capa-

Card 1/2

S/081/61/000/002/014,717
A005/A105

On the Problem of Chemical Transformations of Polyvinyl Alcohol

city for 1 n-solution of HCl 1.5 mg-equ./g were obtained by chloromethylizing of ordinary benzyl ethers of polyvinyl alcohol with their subsequent treatment with trimethyl amine hydrochloride. ✓

E. T.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

ZUBAKOVA, L.B.; DAVANKOV, A.B.

Chemical conversions in granular 2-methyl-5-vinylpyridine-divinyl-
benzene copolymers and other cross-linking agents. Trudy MKHTI
no.29:99-107 '59. (MIRA 13:11)
(Polymers) (Pyridine) (Benzene)

DAVANKOV, A.B.; ZAMBROVSKAYA, Ye.V.

Extracting silver by ionites modified by the adsorption of xanthic acid. Izv. vys. ucheb. zav.; tsvet. met. 2 no.3:82-88 '59.
(MDIA 12:9)

1. Moskovskiy khimiko-tekhnologicheskii institut, Kafedra tekhnologii plastmass.

(Silver) (Ion exchange)

DAVANKOV, A.B.; LAUFER, V.M.; RAKITIN, S.V.; LEVIAN, L.G.; CHERNOBAY,
A.I.

Recovery of noble metals by anion-exchange resins from waste
and industrial solutions of electrolytic copper plants. Izv.
vys.ucheb.zav.; tsvet.met. 2 no.6:134-141 '59.
(MIRA 13:4)

1. Moskovskiy khimiko-tekhnologicheskiy institut. Kafedra
tekhnologii plastmass.
(Copper industry--By-products) (Ion exchange)
(Precious metals--Metallurgy)

5(2)

SOV/80-32-4-5/47

AUTHORS: Davankov, A.B., Laufer, V.M.

TITLE: On the Problem of Elution of Precious Metals From Anionites After Adsorption (K voprosu ob elyuirovanii blagocrodnykh metallov iz anionitov posle adsorbtsii)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4; pp 727-734 (USSR)

ABSTRACT: The elution and relative resistance to reducing agents of complex ions (AuCl_4^- , $\text{Au}(\text{CN})_2^-$) adsorbed on anionites is investigated here. The AuCl_4^- ions adsorbed on a "H-O" anionite are easily reduced to metal by hydroquinone. They accumulate on the resin after several sorption cycles in the quantity of more than 5 mg-equ. per gram of adsorbent. The $\text{Au}(\text{CN})_2^-$ ions are displaced by the solutions of sodium sulfide, hydrosulfide and hydrosulfite without reduction. This indicates the high resistance of cyanide anions to reduction and deposition action of these agents. It is known that thiourea enters into the reaction of complexformation with metals, the sulfides of which are insoluble in water. The thiourea complexes are easily decomposed in weakly alkaline solutions with the forma-

Card 1/2

SOV/80-32-4-5/47

On the Problem of Elution of Precious Metals From Anionites After Adsorption

tion of sulfides. It is possible to extract the precious metals completely from resin adsorbents by this method. The best results are obtained with a 10%-solution of thiourea and a 5%-solution of hydrochloric acid. Kurnakov is mentioned in the text.

There are 5 tables, 1 graph, and 2 Soviet references.

SUBMITTED: September 19, 1957

Card 2/2

5.3610

75675
SOV/80-32-10-24/51

AUTHORS: Davankov, A. B., Oratynskaya, A. N., Laufer, V. M.,
Lipinskiy, A. G.

TITLE: Deionization of Acid Albumin Hydrolysates by Anion-Exchange Resins

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp 2269-2275 (USSR)

ABSTRACT: Various domestic ion-exchange resins were tested for the separation of amino acids from the mineral acids residue in casein hydrolyzates. Slightly basic MMG-1 and AN-2F, medium basic N-O and EDE-10P, and strongly basic AV-16 anion-exchange resins were investigated. EDE-10P and AN-2F resins gave the best results; the adsorption of Cl^- and SO_4^{--} was complete, and that of amine nitrogen insignificant. The degree of deionization can be quickly determined by the pH value of the filtrate. When $\text{pH} < 5.5$, the deionization is practically 100%; at $\text{pH} = 5.5$ to 3.5, the Cl^- content is

Card 1/2

Deionization of Acid Albumin Hydrolysates by
Anion-Exchange Resins

75675
SOV/80-32-10-24/51

below 0.2%; pH < 3 shows a low degree of demineralization of the hydrolyzate. The laboratory tests were repeated with practically identical results in a pilot installation with stainless steel filtering column of 5-kg ion-exchange resin capacity. There are 5 tables; 1 figure; and 5 Soviet references.

SUBMITTED: July 21, 1958

Card 2/2

DAVANKOV, Aleksandr Borisovich; FEDCHENKO, V., red.; VOLYNTSEVA, V.,
tekhn.red.

[Magic grains] Volshebnye zerna. Moskva, Izd-vo TsK VLESK
"Molodaia gvardiia," 1960. 60 p. (MIRA 13:8)
(Ion exchange)

83701

S/190/60/002/006/006/012
B015/B064

5.3830B also 2109, 2209

11.2210

AUTHORS:

Davankov, A. B., Zubakova, L. B.

TITLE:

Synthesis and Investigation of Highmolecular Tertiary
Amines and Quaternary Ammonium Compounds on the Basis of
the Copolymers of 2-Methyl-5-vinyl Pyridine With Various
"Interlacing" Agents

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 6,
pp. 884-890

TEXT: An industrial method of producing 2-methyl-5-vinyl pyridine¹
(Ref. 1) was developed in the Yaroslavskiy nauchno-issledovatel'skiy
institut monomerov (Yaroslavl' Scientific Research Institute of Monomers),
serving as a basis for producing important types of synthetic rubber
(Refs. 2,3). The present investigation deals with the mechanism and the
conditions of a copolymerization of 2-methyl-5-vinyl pyridine with
divinyl benzene (2-6%) and triethylene glycol dimethacrylic ester (2-20%).
The high-molecular tertiary amines obtained were transformed into
insoluble quaternary ammonium bases by alkylation, and the products

Card 1/3

83701

Synthesis and Investigation of Highmolecular
Tertiary Amines and Quaternary Ammonium Compounds
on the Basis of the Copolymers of 2-Methyl-5-vinyl
Pyridine With Various "Interlacing" Agents

S/90/60/002/006/006/012
BO15/BO64

obtained subjected to different physico-chemical tests (anion exchange, chemical stability, water absorption, swelling in organic solvents etc). On heating, or irradiating 2-methyl-5-vinyl pyridine with 0.4% of benzoyl peroxide only with a quartz lamp of the NPK-2 (PRK-2) type. the reaction products obtained were only soluble in organic solvents. Copolymerization at 70-80°C (end at 100°C) and a duration of 4-5 h of 100 parts by weight of 2-methyl-5-vinyl pyridine and 4 parts by weight of divinyl benzene besides 0.4 parts by weight of benzoyl peroxide in suspension resulted in a solid copolymer, insoluble in organic solvents, with weakly alkaline character, and anion exchanger properties (Table 1). Alkylation was carried out in the same cylindrical glass reaction vessel as copolymerization, with benzyl chloride, para-toluene sulphomethylate, ethyl iodide and methyl iodide being used. Products of benzylation and methylation with para-toluene sulfo acid methyl ester had the highest capacity of exchange. The degree of alkylation rises with the reaction time. An action of strong acid solutions (5 N and 9 N HNO₃, H₂SO₄) and lyes (1 N and 9 N NaOH) upon the anion exchangers in the form of tertiary

Card 2/3

83701

Synthesis and Investigation of Highmolecular
Tertiary Amines and Quaternary Ammonium Compounds S/190/60/002/006/006/012
on the Basis of the Copolymers of 2-Methyl-5-vinyl B015/B064
Pyridine With Various "Interlacing" Agents

amines was found to cause no reduction or their static and dynamic
exchange capacity with respect to 0.1 N HCl (Table 2). The exchangers
have a high absorptive power for phenol from aqueous solutions and a good
exchange capacity for silver cyanide complexes. There are 1 figure, 2
tables, and 9 references: 7 Soviet and 2 US.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im.
D. I. Mendeleeva (Moscow Institute of Chemical Technology
imeni D. I. Mendeleev) X

SUBMITTED: February 19, 1960

Card 3/3

53831

2209, 1274, 1370

S/190/60/002/009/020/023/XX
B004/B056

AUTHORS: Davankov, A. B., Zambrovskaya, Ye. V.

TITLE: Synthesis and Application of Polymers With Thiol- and Thione Groups

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 9, pp. 1330-1334

TEXT: The authors aimed at producing a cation exchanger containing SH- and =S groups and which, besides being used for analytical purposes, may also serve for the separation of metals, whose sulfides are difficultly soluble in water. For the synthesis of such an exchanger-resin, the authors used two methods. 1) The CAT(SDT) resin was obtained by the treatment of a chloromethylated copolymer of styrene and 2-4% divinyl benzene with thiourea. The SDT resin contained 11.3 - 15.48% sulfur, and was hydrolyzed by means of 5% NaOH. The yield was 70-85%, referred to the initial chloromethylated copolymer. The sorption properties of this resin are only little influenced by the pH. The dynamic exchange capacity, measured by means of 0.1 N AgNO₃, amounted to 2.7 - 2.8 mg-equiv/g. The regeneration was carried

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05751

Synthesis and Application of Polymers With
Thiol- and Thione Groups

S/190/60/002/009/020/023/XX
B004/B056

out by reducing the silver with NaHSO_3 or Na_2SO_3 . When NaHSO_3 was used, no decrease of the absorption capacity occurred. In eight cycles of sorption and regeneration, 238.7% Ag, calculated per weight of the resin, and/or 22.1% mg-equiv/g referred to metal were adsorbed on the cation exchanger. 2) The CHK(SNK) resin was obtained from a polymer containing amino styrene and 2% divinyl benzene by means of diazotizing with an excess of HNO_2 at 5°C and treating the diazo compound with potassium ethylxanthogenate. The sulfur content of the resin was 5.16 - 6.10%. The dynamic exchange capacity determined by means of AgNO_3 was 2.13 mg-equiv/g. Also in the case of this resin, NaHSO_3 proved to be more suited for regeneration, because the capacity did not decrease to such an extent as when using the Na_2SO_3 . The authors further investigated TH(TN) resin synthesized by A. B. Davaňkov and V. M. Laufer in the kafedra plastmass (Chair of Plastics) of their institute. TN is a polycondensation product of thiourea, melamine, and formaldehyde. The exchange capacity, which was determined according to the above method, was 2.70 - 4.44 mg-equiv/g. There are 3 tables and 6 references: 1 Soviet, 2 US, and 3 British.

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Synthesis and Application of Polymers With
Thiol- and Thione Groups

S/190/60/002/009/020/023/XX
B004/B056

ASSOCIATION: Khimiko-tekhnologicheskij institut im. D. I. Mendeleyeva
(Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: March 29, 1960

Card 3/3

DAVANKOV, A.B.; LAUFER, V.M.; IOSILEVICH, A.I.

New methods of sorption and desorption of silver by ionites in an electric field. *Izv. vys. ucheb. zav.; tsvet. met.* 3 no.4:81-88 '60. (MIRA 13:9)

1. Moskovskiy khimiko-tehnologicheskii institut. Kafedra tekhnologii plastmass.

(Silver)

(Ion exchange)

(Electric fields)

24738
S/080/60/033/007/024/024/XX
D270/D304

15-8100

AUTHOR:

Davankov, A.B. and Morovintseva, N.A.

TITLE:

Intragranular chemical transformations in copolymers of vinyl toluene with divinyl benzene

PERIODICAL:

Zhurnal prikladnoy khimii, v. 33, no. 7, 1960, 1676-1679

TEXT: The relationship between the structure of polymers and their transformation, especially for the little-studied compounds of vinylene with benzene and toluene, has much practical and theoretical significance, so the authors investigated the copolymerization of vinyl toluene with divinyl benzene and the conversion of this compound into a high-polymer amine. Copolymerization is effected in water in a glass cylinder fitted with a mechanical paddle-mixer and reflux condenser. After heating at 75 - 85° for 5 - 6 hours on a water bath small granules (diam. 0.25 - 1 mm) which assume a reddish color on washing and drying, are separated from the solutions. The relationship is shown, first noted by Ye. B. Trostyanskaya et al

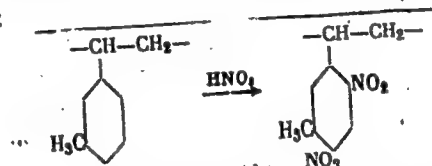
Card 1/3

24738

S/080/60/033/007/024/024/XX
D270/D304

Intragranular chemical...

(Ref. 4: Khim. nauka i prom., 2, 5, 593, 1957) of the number of lateral bonds in the molecular lattice of the copolymers to the swelling of the granules in dioxane. Nitration is accomplished by cooling a mixture of the granules with HNO_3 and H_2SO_4 and then heating it on a water bath for 2 - 6 hours at $75^\circ - 80^\circ$. Depending on the exact temperature and length of nitration, intermediate products with a content of 3.55 - 9.29% N_2 are obtained, possibly through the following reaction:



The nitro groups are subsequently changed into amine groups by their reduction with SnCl_2 in HCl at 100° . The granules thus synthesized have a dark-brown or black color, the yield being 75 - 95%. The most complete nitration and reduction results from an original mixture containing the least divinyl benzene - 2-4% of the weight of

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Intragranular chemical...

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vinyl toluene. Under these conditions the exchange capacity of the amino-resin is 5.5 and 5.9 mg equivs/g for 0.1N HCl and 0.5 H₂SO₄ respectively. The most stable granules, however, are prepared from copolymers containing the maximum amount of divinyl benzene - 8-10%. In conclusion the authors stress the importance of the relationship between the nitration and reduction reactions and the number of lateral bonds in the molecular lattice of the studied copolymers during their conversion into amines. There are 1 figure, 2 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H. Zentman, J. Chem. Soc., 982 (1950).

SUBMITTED: December 7, 1959

Card 3/3

39449
S/081/62/000/012/063/063
B158/B101

15.8100

AUTHORS: Davankov, A. B., Zambrovskaya, Ye. V.

TITLE: Synthesis and application of high molecular compounds containing thiols and thionic groups

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 669, abstract 12R89 (Sb. "Issled. v obl. prom. primeneniya sorbentov." M., AN SSSR, 1961, 27-30)

TEXT: Styrene copolymers with 2-4% divinyl benzene, which contain sulfhydryl groups and are weakly acid cation exchange resins, are produced by the action of a solution of thiourea (in water or dioxane) on a chloromethylated granular copolymer (0.8:1) with a 70-85% yield and a sulfur content of 11.3-15.3%. The exchange capacity from a 0.1 N solution of AgNO_3 after 8 sorption cycles is 22.1 milliequivalents/g; the Ag^+ is reduced with a 10% NaHSO_3 solution. Ion exchange resin, containing functional SH groups, is obtained also by diazotizing a copolymer of ~~amin~~ostyrene (11% N_2) and divinyl benzene (2%), swollen in

Card 1/2

DAVANKOV, A.B.; ZAMBROVSKAYA, Ye.V.; GERASHCHENKO, Z.V.

Synthesis and study of sulfhydryl derivatives of
polystyrene and its copolymers. Part 2. Vysokom.soad.
3 no.10:1468-1473 0 '61. (MIRA 14:9)

1. Moskovskiy khimiko-tekhnologicheskij institut imeni D.I.
Medeleeva.

(Styrene polymers) (Mercapto compounds)

DAVANKOV, A.B.; VITOL, O.A.; FAYNGOR, B.A.

Chemical transformations of granular copolymers of vinyltoluene with divinylbenzene and other "cross-linking" agents. Part 1: Chloromethylation of vinyltoluene and divinylbenzene copolymers. Vysokom.soed. 3 no.10:1566-1571 0 '61. (MIRA 14:9)

1. Moskovskiy khimiko-tehnologicheskii institut imeni D.I. Mendeleyeva.
(Benzene) (Toluene)

DAVANKOV, A.B.; LAUFER, V.M.

Electrochemical method of sorption and desorption of silver
on ionites. Izv. vys. ucheb. zav.; tsvet. met. 4 no.4:121-123
'61. (MIRA 14:8)

1. Moskovskiy khimiko-tehnologicheskii institut, kafedra
tehnologii plastmas.
(Sorption) (Silver ions)

DAVANKOV, A.B.; ZUBAKOVA, L.B.; SHABANOVA, N.A.

Extraction of nitrophenols from aqueous solutions by anion exchange
resins. Zhur. prikl. khim. 34 no.2:403-407 F '61. (MIRA 14:2)
(Phenols) (Ion exchange)

DAVANKOV, A.B.; ZUBAKOVA, L.B.; ANTONOVA, A.B.

Preparation and chemical conversion of ~~macro-molecular~~ tertiary
amines into quaternary pyridine bases. Zhur. prikl. khim. 34
no.5:1110-1116 My '61. (MIRA 16:8)

(Amines) (Pyridine)

DAVANKOV, A.B.; APTOVA, T.A.; GITERMAN, Z.M.

Oxidation-reduction processes and silver concentration on
electro-exchange polymers. Zhur.prikl.khim. 34 no.8:1852-
1857 Ag '61. (MIRA 14:8)

(Silver)
(Oxidation-Reduction reaction)
(Ion exchange resins)

DAVANKOV, A.B. (Moskva); LAUFER, V.M. (Moskva); GORDIYEVSKIY, A.V. (Moskva)

Storerooms of the Atlantic Ocean. Priroda 50 no.12:101-103 D
'61. (MIRA 14:12)
(Atlantic Ocean--Uranium) (Ion exchange)

DAVANKOV, Aleksandr Borisovich; FAYNBOYM, I.B., red.; RAKITIN, I.T.,
tekhn. red.

[Ion exchangers] Ionity. Moskva, Izd-vo "Znanie," 1962. 40 p.
(Novoe v zhizni, nauke, tekhnike. IV Seriya: Tekhnika, no.24)
(MIRA 15:12)

(Ion exchange resins)

10513
S/149/62/000/002/007/008
A006/A101

21.4.200

AUTHORS: Davankov, A. B., Laufer, V. M., Azhazha, E. G., Gordiyevskiy, A. V.,
Kiryushov, V. N.

TITLE: Experiences in extracting uranium and other elements from Atlantic
Ocean water

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya Metallurgiya, no.
2, 1962, 118-123

TEXT: Experiments of extracting various elements from Atlantic Ocean
water were carried out in 1959, during the sixth Atlantic expedition of the
Marine Hydrophysical Institute of AS SSSR. Water from various parts of the
Atlantic was filtered through an absorption column mounted on board the expedi-
tion vessel. This vinylplastic column, 1,600 mm high with 63 mm internal diam-
eter, was filled with 3.5 kg granulated H-O anion-exchange resin in Cl form of
64% moisture. An amount of 59,189 liters of water was filtered through the
column at an average rate of 40 l/hour. The qualitative and quantitative deter-
mination of various elements in the resin was carried out by radiometric
 β -radiation, luminescent and polarographical analyses. The amount of uranium

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Experiences in extracting uranium ,...

S/149/62/000/002/007/008
A006/A101

extracted on conversion to the total amount of air-dry H-O resin was 303 mg according to data of radiometrical analysis; 413 mg according to luminescent analysis, and 417 mg according to polarographical analysis. The uranium content in the Atlantic water calculated from these data was: $5.12 \cdot 10^{-6}$ g/l; (radio-metric analysis); $6.99 \cdot 10^{-5}$ g/l (luminescent analysis) and $7.04 \cdot 10^{-6}$ g/l (polarographical analysis) or on conversion to normal sea water $4.7 \cdot 10^{-6}$ g/kg; $6.41 \cdot 10^{-6}$ g/kg and $6.47 \cdot 10^{-6}$ g/kg, respectively. Semi-quantitative spectroscopical analysis of ash residue after burning the O-H resin was used to establish the presence of small amounts of silver, strontium, bismuth, zinc, copper, manganese, iron, aluminum, silicon, calcium, magnesium, and sodium. The silver content in the absorbent was determined by cupellation of the ash residue after burning 200 g O-H resin. An amount of 2.5 mg pure silver was then separated out which is $5.75 \cdot 10^{-7}$ g per one liter of water. There are 4 tables and 13 references: 6 Soviet-bloc and 7 non-Soviet-bloc

ASSOCIATIONS: Moskovskiy khimiko-tekhnologicheskii institut (Moscow Chemical and Technological Institute); Kafedra tekhnologii plastmass (Department of the Technology of Plastics)
SUBMITTED: February 25, 1961

Card 2/2

S/190/62/004/007/008/009
B119/B180

AUTHORS: Davankov, A. B., Vitol, O. A.

TITLE: Chemical rearrangements of granular copolymers of vinyl toluene with divinyl benzene and other "crosslinking" agents.
II. Chloromethylation of copolymers of vinyl toluene with ethylene glycol and diethylene glycol dimethacrylates

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 7, 1962,
1093-1097

TEXT: The authors studied the chloromethylation of vinyl toluene - ethylene glycol dimethacrylate and vinyl toluene - diethylene glycol dimethacrylate in granular form (grain size 0.5-1.0 mm) by means of monochloro methyl ether in the presence of SnCl_4 and ZnCl_2 as catalysts. The content of ethylene glycol dimethacrylate and diethylene glycol dimethacrylate in the polymer was 2, 6, or 10%. Reaction time and catalyst concentration were varied in the experiments between 0.05 and 0.75 moles SnCl_4 , or 0.1 and 0.75 moles ZnCl_2 per base molecule of the copolymer. The following

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Chemical rearrangements of granular ...

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B119/B180

optimum reaction conditions were found: reaction time 2-4 hr, depending on the content of crosslinking agent; 6-10% crosslinking agent in the copolymer; 0.3 moles $ZnCl_2$ per base molecule of copolymer in the reaction mixture. Copolymers containing 28.8% chlorine were obtained, corresponding to 158 chloromethyl groups per 100 benzene nuclei. Reaction times over 4 hr reduce an existing chlorine content (formation of methylene bridges with separation of HCl). Catalyst contents over 0.3 moles per base molecule of polymer cause a higher Cl content in the final product, but reduce its mechanical strength. There are 4 figures. The most important English-language reference is: K. Pepper, H. Paisley, M. Young, J. Chem. Soc., 1953, 4097.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: May 3, 1961

Card 2/2

DAVANKOV, A.B.; LAUFER, V.M.; AZHAZHA, E.G.; GORDIYEVSKIY, A.V.; KIRYUSHOV,
V.N.

Recovery of uranium and other elements from the water of the
Atlantic Ocean. Izv. vys. ucheb. zav.; tsvet. met. 5 no.2:118-
123 '62. (MIRA 15:3)

1. Moskovskiy khimiko-tekhnologicheskii institut, kafedra
tekhnologii plastmass.
(Atlantic Ocean--Uranium) (Marine resources)

BAKHRAKH, Ye.E.; DAYANKOV, A.B.; MARTENS, L.A.; LAUFER, V.M.; SOKOLOVA, N.M.;
OBUKHOVA, Z.A.; FILIPPOVA, N.Ye.

Cultivation of the plague microbe on media of acid casein hydrolysate
demineralized using an ion-exchange resin. Zhur.mikrobiol., epid. i
immun. 33 no.3:51-55 Mr '62. (MIRA 15:2)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta
mikrobiologii i epidemiologii Yugo-Vostoka SSSR "Mikrob".
(PASTEURILLA PESTIS) (CASEIN) (ION EXCHANGE RESINS)

36.55
S/080/62/035/004/006/022
D267/D301

5.2100

AUTHORS: Davankov, A. B., Laufer, V. M., Bortel', E. and Tep-
lyakov, M. M.

TITLE: Sorption and subsequent desorption of ytterbium and
europium on granular ionites in an electric field

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 769-773

TEXT: The successful application of redox processes for the con-
centration and desorption of noble metals on granular ionites in an
electric field prompted the authors to use these processes in the
case of some lanthanides endowed with variable valency. Having cho-
sen Yb and Eu as the elements to be tested, the authors intended
first to check the possibility of desorption in the electric field
of tervalent cations adsorbed on ionites, and then to try to re-
duce them to divalent ions and utilize the low solubility of sul-
phates for the purpose of concentration. Conditions have been stu-
died of extracting and concentrating Eu and Yb from dilute solu-
tions by means of the cationite $KY-2$ (KU-2), and a method has been

Card 1/2

Sorption and subsequent ...

S/030/62/035/004/006/022
D267/D301

developed for achieving complete ($> 95\%$) desorption of Eu ions from the adsorbent and for obtaining concentrated solutions of Eu by amalgamation. Yb did not form amalgams with Hg. The method of desorption in the electrical field with the use of a Hg cathode can be used to separate Eu from Yb and other rare-earth elements. Electrochemical desorption of Eu and Yb in the presence of H_2SO_4 solutions as electrolyte did not ensure a complete extraction of these elements. There are 3 figures, 2 tables and 28 references: 18 Soviet-bloc and 10 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: K. S. Spiegler, Techn. Rev., 100, 1953, 303; A. H. Creer, A. B. Kindler and V. P. Tevmine, Industr. Engng. Chem., 1958, 166; R. S. Stamberg, J. Seidl and J. Rahm, Polymer Sci., 31, no. 122-123, 1958, 15-24; R. Kunin, Ion exchange resins, New York, 1958.

SUBMITTED: April 13, 1961

Card 2/2

DAVANKOV, A.B.; ZUBAKOVA, L.B.; ZVEGINTSEVA, G.B.

Complex formation with phenols and absorptive capacity of
high molecular weight derivatives of pyridine. Zhur.prikl.
khim. 35 no.5:1133-1135 My '62. (MIRA 15:5)

(Pyridine) (Phenols)
(Ion exchange resins)

DAVANKOV, A.B.; APTOVA, T.A.

Desorption of silver and the regeneration of electron exchange
resins by the electrochemical method. Zhur.prikl.khim. 35
no.10:2171-2175 0 '62. (MIRA 15:12)
(Ion exchange resins) (Silver) (Electrochemistry)

S/190/63/005/002/013/024
B101/B102

AUTHORS:

Davankov, A. B., Santo, I., Lilo, P. M.

TITLE:

Highmolecular derivatives of α -methyl styrene. I. Some polymers and copolymers of α -methyl styrene

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, v. 5, no. 2, 1963, 233-237

TEXT: Since the results of bulk and suspension copolymerisation of α -methyl styrene with divinyl benzene (DVB) as cross linking agent were unsatisfactory in the presence of benzoyl peroxide, suspension copolymerisation was conducted in 4% aqueous solution of polyvinyl alcohol at 95-100°C using azobisisobutyric dinitrile as initiator. The yield was 82% after 60 hrs with 4% DVB in the initial mixture and 100% after 7 hrs with 16% DVB. Regular globular granuli were obtained, the diameter of which increased with increasing DVB content. The swelling capacity in benzene, dichloro ethane, CCl_4 and monochloro methyl ether decreased with increasing content of crosslinking agent, e.g., in benzene from 152% with 4% DVB to

Card 1/2

Highmolecular derivatives of ...

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B101/B102

118% with 10% DVB. Higher concentration of the initiator and additions of acetic acid or maleic anhydride had an accelerating effect. Copolymerization of α -methyl styrene with maleic anhydride took place also without initiator. With equimolecular ratio of α -methyl styrene and maleic anhydride a polymer having an intrinsic viscosity of 0.14 was obtained after 3 hrs. at 60°C, with a ratio of 1:4, 0.2 benzoyl peroxide, the copolymer obtained after 10 min at 75°C had the intrinsic viscosity 0.10. Methyl, ethyl, propyl and butyl maleinates copolymerize equally with α -methyl styrene. Vitreous copolymers are formed. There are 1 figure and 1 tables.

ASSOCIATION:

Moskovskiy khimiko-tehnologicheskii institut im. D. I. Mendeleeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleev)

SUBMITTED:

August 26, 1961

Card 2/2